

# Contact Specifications

EV Series • MIL-DTL-83723 Series III Type Connectors

## Wire & Crimp Dimensions

Contact Size	Wire Range		Potential Drop (Millivolts)	Crimp Well Diameter	Min Crimp Well Depth	Finished Wire Diameter Sealing Range		Contact Retention Min Axial Load Pounds (Newtons)
	AWG	Dia				Min	Max	
#20	20, 22, 24	.020-.032 (.51-.81)	35	.049 (1.24)	.155 (3.94)	.040 (1.02)	.083 (2.11)	20 (89.0)
#16	16, 18, 20	.032-.050 (.81-1.29)	25	.067 (1.70)	.250 (6.35)	.053 (1.35)	.103 (2.62)	25 (111.2)
#12	12, 14	.064-.080 (1.62-2.05)	25	.100 (2.50)	.250 (6.35)	.097 (2.46)	.158 (4.01)	30 (133.4)

Dimensions are in inches (mm) unless otherwise noted.

## Current Rating By Contact Size & Wire Size

Wire Size (AWG)	Contact Size		
	#20	#16	#12
24	3A		
20	7.5A	7.5A	
16		13A	
14			17A
12			23A

Test ratings only. A connector cannot withstand maximum current through all contacts continuously. Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he or she is in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

## Coupling Torque

Shell Size	Maximum Engagement & Disengagement	Minimum Disengagement
8	8 (.904)	
10	10 (1.13)	1 (.113)
12	14 (1.58)	2 (.266)
14	17 (1.92)	
16	23 (2.60)	4 (.452)
18	26 (2.94)	
20	31 (3.50)	6 (.678)
22		
24	38 (4.29)	7 (.791)

Units are in inch pounds (Newton meters).

## Contact Derating Specifications

Service Rating	Max Operating Voltage Sea Level		Test Voltage			
	AC (RMS)	DC	Sea Level	50,000 ft	70,000 ft	110,000 ft
			AC (RMS)	AC (RMS)	AC (RMS)	AC (RMS)
I	600	850	1,500	500	375	200

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## Torque Values For Accessory Threads

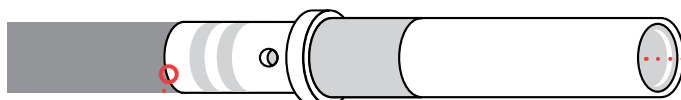
Shell Size	Recommended Torque	
	Min	Max
8	51 (5.8)	61 (6.9)
10	71 (8.0)	81 (9.2)
12	103 (11.6)	113 (12.8)
14	111 (12.5)	121 (13.7)
16	111 (12.5)	121 (13.7)
18	111 (12.5)	121 (13.7)
20	131 (14.8)	141 (15.9)
22	131 (14.8)	141 (15.9)
24	131 (14.8)	141 (15.9)

Units are in inch pounds (Newton meters).

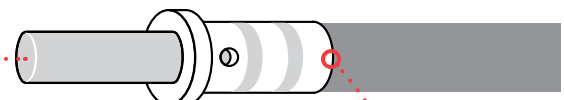
## Torque Values For Cable Clamp Screws

Screw Size	Recommended Torque	
	Min	Max
#2-56	1.5 (.2)	2.5 (.3)
#4-40	3.5 (.4)	4.5 (.5)
#6-32	5 (.6)	7 (.8)
#8-32	7 (.8)	9 (1.0)
#10-32	9 (1.0)	11 (1.2)
#.250-20	11 (1.2)	13 (1.5)

Units are in inch pounds (Newton meters).



Socket contacts are female and are usually found on the "hot" or powered side of a circuit. They are recessed in a connector for user and equipment protection.



Pin contacts are male and are usually exposed on the "load" side of a circuit.

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## Standard Contacts, Sealing Plugs, & Tooling

Contact Size	Contact Style	Part Number	Wire Size (AWG)	Wire Range (Dia)	Jacket Strip Length	Crimping Tool	Positioner (Turret)	Insertion Tool	Extraction Tool
#20	Pin	EVPP20	20, 22, & 24	.020–.032 (.51–.81)	.157 (4.00)			TN205	TX206
	Socket	EVSS20							
	Sealing Plugs	EVSP20							
#16	Pin	EVPP16	16, 18, & 20	.032–.050 (.81–1.29)	.236 (6.00)	TK101A (Hand Crimper)	TP102	TN207	TX208
	Socket	EVSS16							
	Sealing Plugs	EVSP16							
#12	Pin	EVPP12	12 & 14	.064–.080 (1.62–2.05)	.236 (6.00)			TN209	TX210
	Socket	EVSS12							
	Sealing Plugs	EVSP12							

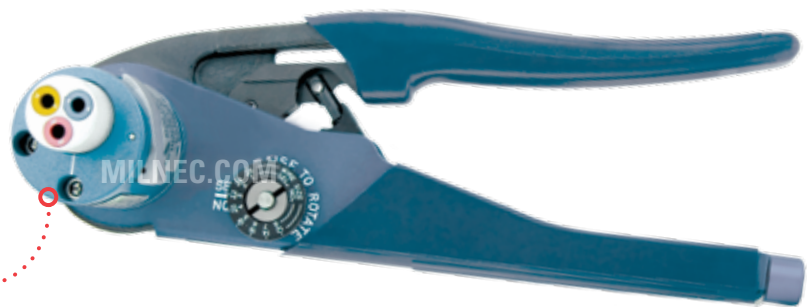
Dimensions are in inches (mm) unless otherwise noted.

## Thermocouple Contacts & Tooling

Contact Size	Contact Style	Part Number	Wire Size (AWG)	Wire Range (Dia)	Jacket Strip Length	Crimping Tool	Positioner (Turret)	Insertion Tool	Extraction Tool							
#20 Alumel	Pin	EVPA20	20, 22, & 24	.020–.032 (.51–.81)	.157 (4.00)			TN205	TX206							
	Socket	EVSA20														
#20 Chromel	Pin	EVPR20														
	Socket	EVS20														
#20 Constantan	Pin	EVPK20														
	Socket	EVSK20														
#20 Copper	Pin	EVPB20														
	Socket	EVPB20														
#20 Iron	Pin	EVPE20														
	Socket	EVSE20														
#16 Alumel	Pin	EVPA16								16, 18, & 20	.032–.050 (.81–1.29)	.236 (6.00)	TK101A (Hand Crimper)	TP102	TN207	TX208
	Socket	EVSA16														
#16 Chromel	Pin	EVPR16														
	Socket	EVS16														
#16 Constantan	Pin	EVPK16														
	Socket	EVSK16														
#16 Copper	Pin	EVPB16														
	Socket	EVPB16														
#16 Iron	Pin	EVPE16														
	Socket	EVSE16														

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## EV Series Crimp Contacts



Milnec's versatile crimp tool with turret positioner allows the termination of all three contact sizes in the series (#12, #16, #20).